

ANNEX 7 – RELIABILITY ASSESSMENT REPORTS

ALGIERS LOCK ASSESSMENT

GENERAL

The Corps of Engineers constructed Algiers Lock at a cost of \$5.2 million. Although the lock was completed in November 1954, it was not opened until April 1956 due to construction of the Railroad Bridge over the Algiers Canal. In 1996 the lock passed over 22 million tons and 35,621 vessels in 10,050 lockages.

The lock is located seven miles below Canal Street near Cut Off Light, Louisiana on the west bank of the Mississippi River. Algiers Lock is a 9-mile long alternate shallow-draft route of the Gulf Intracoastal Waterway providing access to ports as far west as Brownsville, Texas. The lock is also used to introduce fresh water into the coastal areas west of the Mississippi River by partially opening both gates simultaneously. This is beneficial to the fishing industry, and also reduces the salt concentration to the water in those areas. The lock is located on 92.30 acres of land and is operated by 13 employees.

The lock consists essentially of pile founded reinforced concrete gatebay structures with a pile-founded reinforced concrete U-frame lock chamber with timber guidewalls. The lock chamber is 75-foot wide by 760 feet of usable length with and a sill elevation of -13.00 feet Mean Low Gulf (MLG). Algiers Lock has a top elevation of 23 feet MLG. In each gatebay are two steel 70-degree modified sector gates, each weighing 110 tons, which are operated by a hydraulic system of the cylinder and strut type. The operating machinery consists of a hydraulic power unit and a hydraulic cylinder actuated gate-operating machine. The hydraulic power units are scheduled to be replaced late 1997 or early 1998. The new system will consist of a double vane pump providing two speeds of operation. The power units will operate the existing hydraulic cylinders that are being refurbished one at a time using a spare unit so that the lock is not kept out of service. The maximum design direct head is 18.5 feet. The maximum design reverse head is 5.0 feet.

Equalizing the chamber water level with either water stage is accomplished by opening the appropriate sector gates, admitting the vessel, closing the sector gates, equalizing the chamber

water level with the opposite water stage by opening the opposite end gates, and permitting the vessel to leave the lock.

Emergency closure of the lock at the river end can be accomplished by placing the 40 ton steel bulkheads, stored near the lock, across the width of the lock with the derrick, thus damming the lock closed. An emergency bulkhead and a needle dam are used for dewatering either the riverward gate or the entire lock. Two needle dams are required for dewatering the canal gate bay.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

The Algiers lock was inspected 7 times between 1967 and 1993, was dewatered for maintenance and repairs in 1964, 1979 and 1993 and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, January 1990 through April 1996, the period for which condition reports were readily available. The current Lock Repair and Closure Schedule (5 June 1997) has the lock scheduled for dewatered for maintenance and repairs in FY-04. A listing of lock closures due to maintenance and repair, and a summary of maintenance and repair operations for Algiers Lock can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No.7, dated 1 September 1993, the Algiers Lock is safe, structurally stable, well maintained and in satisfactory operating condition. Deficiencies that were noted are included in Appendix Algiers.1. Since the inspection and during the summer of 1997 the Lock's electrical systems were severely damage by a lighting strike. As a result of the damage, temporary repairs were made to keep the lock in operation until the entire electrical system could be replaced. It is anticipated that district personnel will accomplish this early 1998.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the same Periodic Inspection Report, there is no major maintenance, improvements, or repairs needed at the time of the report. The current Lock Repair and Closure Schedule (5 June 1997) has the lock scheduled to have the river end guidewall replaced, new gate cylinders installed and hydraulic gate machinery replaced. As stated in the Reconnaissance Report dated May 1992,

Algiers Lock is shown to have an intermediate need for a capacity increase under most alternative analytical scenarios. Consequently, detailed engineering at this site is not appropriate at this time, although navigation improvements at this lock should be considered in the feasibility study.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

With the replacement of the hydraulic systems, refurbishment of the operating cylinders, and overhaul of the electrical system there will be little potential for major rehabilitation at Algiers Lock. From the observed condition, no major rehabilitation should be required to maintain the lock in a safe, structurally stable, and satisfactory operating condition. No small-scale improvements were studied for this lock in the Reconnaissance Report.

BAYOU BOEUF LOCK ASSESSMENT

GENERAL

Bayou Boeuf Lock was constructed by the Corps of Engineers at a cost of \$2.8 million. The lock was completed in June 1954. In 1992 the lock passed over 25 million tons of cargo and 54,221 vessels in 15,235 lockages.

The lock is located at the intersection of the Gulf Intracoastal Waterway (GIWW) and the East Atchafalaya Basin protection levee, about two miles east of Morgan City, LA. The lock provides for passage of waterway traffic on the GIWW through the levees and is used for diversion of the Atchafalaya River water eastward through the GIWW. The lock is located on 30.14 acres of land and is operated by 13 employees.

The lock consists essentially of two soil founded reinforced concrete gatebay structures with a riprapped earthen lock chamber with timber guidewalls. The lock chamber is 75-foot wide by 1156 feet of usable length with and a sill elevation of -13.80 feet NGVD. Bayou Boeuf Lock has a top elevation of 16 feet NGVD. In each gatebay are two 70-degree steel sector gates, each weighing 90 tons. The sector gate operating equipment consists of an electric motor driving a variable displacement piston type hydraulic pump that operates the sector gate through a high torque low speed hydraulic motor. Bolted to the hydraulic motor is the drive gear that operates the gate rack. In 1997 the machinery, electrical controls and lock wiring were updated and replaced. Differential head between gates can obtain 18.8 feet.

Equalizing the chamber water level with either water stage is accomplished by opening the appropriate sector gates, admitting the vessel, closing the sector gates, equalizing the chamber water level with the opposite water stage by opening the opposite end gates, and permitting the vessel to leave the lock.

To remove water from the west gate during high water stage, steel bulkheads must be obtained from Harvey or Algiers Lock and placed in the allotted locations on each side of the gatebay with a floating derrick crane. Under normal conditions both the east and west gatebays are dewatered by the use of a needle dam, which consists of concrete panels that are placed vertically on each side of the gatebay.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

Bayou Boeuf Lock was inspected 5 times between 1973 and 1992, was dewatered for maintenance and repairs in 1954, 1964, 1976/1977 and 1991/1992 and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, January 1983 through December 1995, the period for which condition reports were readily available. A listing of lock closures due to maintenance and repair are listed in Table Boeuf.1. A summary of maintenance and repair operations for Bayou Boeuf Lock, and a summary of deficiencies reported in the Periodic Inspection Reports and their resolution, can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No. 5, dated 29 September 1992, the Bayou Boeuf Lock is safe, structurally stable, well maintained and in satisfactory operating condition.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the Periodic Inspection Report No. 5, dated 29 September 1992, a modification of the lock to provide flood protection to a design grade of 18.1 feet NGVD (1986 Design Flowline W/AILE plus 2 feet of freeboard) is planned. Although a Design Memorandum has been started for this project, the project is currently on hold for re-evaluation of the 1986 Design Flowline W/AILE.

According to the same Periodic Inspection Report, there is no major maintenance or repairs needed at the time of the report. The current Lock Repair and Closure Schedule (5 June 1997) has the lock scheduled to have the SW guidewall and dolphin replaced and the South chamber guidewall replaced. The SW guidewall and dolphin is scheduled for replacement Mar 98-Feb 99.

The South chamber guidewall is scheduled for FY-00. As stated in the Reconnaissance Report dated May 1992, Bayou Boeuf Lock is shown to have an intermediate need for a capacity increase under most alternative analytical scenarios. Consequently, detailed engineering at this site is not appropriate at this time, although navigation improvements at this lock should be considered in the feasibility study.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

The mechanical and electrical equipment has recently been updated and replaced. There is very little potential for major rehabilitation at Bayou Boeuf Lock. From the observed condition, no major rehabilitation should be required to maintain the lock in a safe, structurally stable, and satisfactory operating condition. The only small-scale improvements under consideration are construction of spare sector gates and construction of permanent mooring facilities. The spare sector gates will significantly reduce dewatering closure time. Permanent mooring facilities will reduce lockage times.

CALCASIEU LOCK ASSESSMENT

GENERAL

Calcasieu Lock was constructed by the Corps of Engineers at a cost of \$2.5 million. The lock was completed in November 1950. In 1996 the lock passed over 39 million tons of cargo and 52,363 vessels in 12,827 lockages.

The lock is located on the Gulf Intracoastal Waterway (GIWW), one-half mile east of Calcasieu River and eleven miles southwest of Lake Charles, LA. The lock is part of the general plan of improvement for the Mermentau River and Basin that calls for the exclusion of salty gulf water from the Basin. The structure serves as a barrier preventing salt-water intrusion from the Calcasieu River on the west into the rice-growing Mermentau Basin via the GIWW. Acting in conjunction with Calcasieu Lock is Leland Bowman Lock, which prevents salt-water ingress to the Basin from the east, along with Catfish Point and Schooner Bayou Control Structures, which stop salt water from entering from the south.

The lock consists essentially of two soil founded reinforced concrete gatebay structures with a riprapped earthen lock chamber with timber guidewalls. The lock chamber is 75-foot wide by 1206 feet of usable length with and a sill elevation of -13.00 feet Mean Low Gulf (MLG). Calcasieu Lock has a top elevation of 9 feet MLG. In each gatebay are two steel sector gates, each weighing 110 tons, which are operated by rack and pinion drives. The sector gate operating equipment consists of an electric motor driving a variable displacement piston type hydraulic pump that operates the sector gate through a high torque low speed hydraulic motor. Bolted to the hydraulic motor is the drive gear that operates the gate rack. The machinery and electrical controls were updated and replaced in the late 1980's. The maximum differential head is 6.0 feet. The maximum reverse head is 2.0 feet.

Equalizing the chamber water level with either water stage is accomplished by opening the appropriate sector gates, admitting the vessel, closing the sector gates, equalizing the chamber

water level with the opposite water stage by opening the opposite end gates, and permitting the vessel to leave the lock.

To remove water from the gatebays, concrete needle beams, which consists of reinforced concrete panels, are placed vertically on each side of the gatebay in the slot in the lock floor and are supported above the water by a steel beam that spans the lock walls.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

Calcasieu Lock was inspected 6 times between 1971 and 1995, was never dewatered for any reason and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, January 1993 through August 1996, the period for which condition reports were readily available. A listing of lock closures due to maintenance and repair, and a summary of significant maintenance and repair operations that caused the closure of Calcasieu Lock, can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No. 6, dated 7 November 1995, the Calcasieu Lock is safe, structurally stable, well maintained and in satisfactory operating condition.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the same Periodic Inspection Report, the following major maintenance, improvements, or repairs were needed at the time of the report.

1. The needle girder recesses will be restored to their approximate original configuration.
2. Embedded metals above the splash zone will be cleaned and painted as part of the routine lock maintenance program. Although the report states that the areas of corroded embedded metals below the splash zone will be cleaned and painted during the next dewatering.

The current Lock Repair and Closure Schedule (5 June 1997) has the lock scheduled to have the sector gates sandblasted and painted and the South chamber guidewall replaced. Although the Reconnaissance Report dated May 1992 stated that the Algiers Lock requires an immediate need for a capacity increase, CECW-PC memorandum dated 26 Jun 1995 deleted the evaluation of alternate plans for Calcasieu Lock. However, there currently is an ongoing feasibility study that includes increasing the capacity of Calcasieu Lock. This study is scheduled for completion in FY 2004.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

There is very little potential for major rehabilitation at Calcasieu Lock. From the observed condition, no major rehabilitation should be required to maintain the lock in a safe, structurally stable, and satisfactory operating condition. The small-scale improvements that were studied for this lock in the Reconnaissance Report were raising the height of the guidewalls, removing or replacing the Hwy 384 bridge, construction of spare lock gates and construction of permanent mooring facilities. All of these improvements with the exception of the spare sector gates will reduce lockage times. The spare sector gates will significantly reduce dewatering closure time.

HARVEY LOCK ASSESSMENT

GENERAL

Harvey Lock was constructed by the Corps of Engineers at a cost of \$1.8 million. The lock was opened to navigation in 1934. It is the oldest lock in the GIWW system west of the Mississippi River. In 1996, the lock passed over 4 million tons of cargo and 19,730 vessels, in 8,658 lockages.

The lock is located three miles above Canal Street on the west bank of the Mississippi River, in Harvey, LA. The lock provides a vessel and barge traffic route between the Mississippi River and the Gulf Intracoastal Waterway via the 6.5-mile Harvey Canal. The lock also serves as a flood control structure during high water. The lock is located on 13.89 acres of land and is operated by 13 employees.

The lock consists essentially of two pile founded reinforced concrete gatebay structures with a pile-founded reinforced concrete U-frame construction lock chamber. The lock chamber is 75-foot wide by 425 feet of usable length with and a sill elevation of -12.00 feet Mean Low Gulf (MLG). Harvey Lock has a top elevation of 25 feet MLG. In each gatebay are four steel miter gates. The high gates, each weighing 60 tons, are for normal operations when the river water level is higher than that of the canal. Differential head between the high gates can obtain 13 feet. The low gates, each weighing 30 tons, are for reverse head conditions when the canal water level is higher than that of the river. The miter gate operating machinery consists of an electric ratio-motor, worm, spur and spur sector gearing, and a crank and strut arm.

Equalizing the chamber water level with either water stage is accomplished by wall culverts with side ports. Sluice gates control the water flow in the culverts. Lock operation for navigation consists of equalizing the chamber water level with either the river or canal stage, opening the miter gates to admit the vessel, closing the gates, equalizing the chamber water level to the

opposite water stage, and opening the opposite gates to permit the vessel to leave the lock. The sluice gate operating machinery was replaced in 1994 after a series of debilitating lock closures and slow downs caused by the existing equipment. At the same time the sluice valve machinery was replaced, the lock was rewired. The new sluice valve machinery consists of a hydraulic cylinder directly connected to the valve replaces a screw stem operator.

Emergency closure of the lock can be accomplished by placing 40 ton steel bulkheads, stored at the river end of the lock, across the width of the lock with the derrick. For routine maintenance dewatering, the bulkheads are used at the river end of the lock and needle dams are used for the canal side.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

Harvey Lock was inspected 7 times between 1966 and 1994, was dewatered for maintenance and repairs in 1956, 1966, 1972 and 1988 and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, January 1993 through August 1995, the period for which condition reports were readily available. According to the latest Lock Repair and Closure Schedule, the Harvey Lock is scheduled for dewatering for maintenance and repairs in FY-02. A summary of maintenance and repair operations for Harvey Lock, and a listing of lock closures due to maintenance and repair, can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No. 7, dated 29 March 1994, the Harvey Lock is safe, structurally stable, well maintained and in satisfactory operating condition. The new valve operating equipment has eliminated many of the recent maintenance problems, however, a major flaw with the lock is its proximity to the Mississippi River and passing ship traffic. Passing ship traffic can create a series of water level fluctuations of several feet that can last for 10 to 20 minutes. The fluctuations far exceeds the few inches of water differential for which the machinery was designed and because of this there is the potential for damage to the operating equipment and gate. As a result, lock operators are restricted from operating the river end gate whenever there is

passing ship traffic. The operating restriction presently results in 60 hours of accumulated loss time per month and is expected to steadily increase with increase in ship traffic.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the same Periodic Inspection Report, there is no major maintenance, improvements, or repairs needed at the time of the report. According to the latest Lock Repair and Closure Schedule (5 Jun 1997) there are plans to remove the existing miter gates and sandblast and paint them (FY-00 and FY-01) and replace the canal end guidewalls (Aug 97) as part of normal maintenance. As stated in the Reconnaissance Report dated May 1992, Harvey Lock was not considered for replacement for two reasons: 1.) its replacement would be difficult to accomplish due to the close proximity of urban development and highway bridges that would require extensive relocations and 2.) A replacement at Algiers Lock (where sufficient land is available for project purposes) would have essentially the same beneficial impact on the waterway as an improvement at Harvey.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

Makeshift and field repairs on the upstream gates are evident and the operating procedures for the upstream gates are restricted. There is also evidence of wear in the gate machinery bearings. At present there are no plans to replace the miter gate machinery, but it is anticipated that replacement within the next 10 years will be required. The present cost to replace the machinery is estimated to be \$800,000. The only improvements under consideration are to raise the height of the machinery and replace the Highway 384 bridge. This bridge replacement will reduce dewatering lockage time.

LELAND BOWMAN LOCK ASSESSMENT

GENERAL

Leland Bowman Lock was constructed by the Corps of Engineers at a cost of \$32.2 million. The lock was completed in March 1985. In 1996 the lock passed over 40 million tons of cargo and 54,432 vessels in 6,662 lockages.

The lock is located on the Gulf Intracoastal Waterway (GIWW), two miles west of Intracoastal City, LA and eighteen miles southwest of Abbeville, LA. The lock is part of the general plan of improvement for the Mermentau River and Basin that calls for the exclusion of salty gulf water from the Basin. The structure serves as a barrier preventing salt-water intrusion from the GIWW into the rice-growing Mermentau Basin. The structure also prevents discharge of freshwater from areas between the Vermillion and Calcasieu Rivers so this water may be used for irrigation. Acting in conjunction with Leland Bowman Lock is Calcasieu Lock, which prevents salt-water ingress to the Basin from the west, along with Catfish Point and Schooner Bayou Control Structures, which stop salt water from entering from the south.

The lock consists essentially of two soil founded reinforced concrete gatebay structures with a riprapped earthen lock chamber with timber guidewalls and steel sheet pile dolphins filled with grouted riprap. The lock chamber is 110-foot wide by 1200 feet of usable length with a sill elevation of -15.00 feet Mean Low Gulf (MLG). Leland Bowman Lock has a top elevation of 9 feet MLG. In each gatebay are two steel sector gates, each weighing 135 tons. Each sector gate leaf is operated by a rack and pinion and driven by an electric-hydraulic system that incorporates a slow speed, high torque motor. Differential head between gates can obtain 5 feet.

Equalizing the chamber water level with either water stage is accomplished by opening the appropriate sector gates, admitting the vessel, closing the sector gates, equalizing the chamber water level with the opposite water stage by opening the opposite end gates, and permitting the vessel to leave the lock.

To remove water from the gatebays, concrete needle beams, which consists of reinforced concrete panels, are placed vertically on each side of the gatebay in the slot in the lock floor and are supported above the water by a steel beam that spans the lock walls.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

Leland Bowman Lock was inspected 6 times between 1985 and 1995, has never been dewatered for inspection or for maintenance and repairs and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, March 1985 through September 1996, the period for which condition reports were readily available. The lock is scheduled for dewatering in 1998. A listing of lock closures due to maintenance and repair, and a summary of maintenance and repair operations for Leland Bowman Lock, can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No. 6, dated 20 June 1995, the Leland Bowman Lock is safe, structurally stable, well maintained and in satisfactory operating condition. The sector gates were found to be in good condition both physically and operationally. Only a small amount of corrosion and surface paint peeling were observed on the sector gates and on the needle girder supports.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the same Periodic Inspection Report, there is no major maintenance, improvements, or repairs needed at the time of the report. There are plans to remove the existing sector gates and sandblast and paint them as part of normal maintenance. To date, no schedule has been given for this work. As stated in the Reconnaissance Report dated May 1992, Leland Bowman Lock, the largest lock in the system, was not considered for improvement, having been recently placed in service.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

There is very little potential for major rehabilitation at the Leland Bowman Lock. From the observed condition of the lock, no major rehabilitation should be required to maintain the lock in

a safe, structurally stable, and satisfactory operating condition. The only improvement under consideration is construction of a set of spare sector gates. This small-scale improvement will significantly reduce dewatering closure time.

PORT ALLEN LOCK ASSESSMENT

GENERAL

Port Allen Lock was constructed by the Corps of Engineers at a cost of \$13.9 million. The lock was opened to navigation in July 1961. In 1996, the lock passed over 25 million tons of cargo and 31,489 vessels, in 6,240 lockages.

The lock is located in the west bank of the Mississippi River, south of Port Allen, LA, and opposite the lower limit of the Port of Baton Rouge. The lock provides a vessel and barge traffic route between the Mississippi River and the Morgan City-to-Port Allen route of the Gulf Intracoastal Waterway. The lock also prevents flooding of low areas southwest of the structure during high water stages of the Mississippi River. It is also used to wash out occasional pollution in the waterway southwest of the lock by diversion of the Mississippi River water through the structure by opening the tainter valves. The lock is located on 144.10 acres of land and is operated by 13 employees.

The lock consists essentially of two soil founded reinforced concrete gatebay structures with a soil-founded reinforced concrete U-frame construction lock chamber. The lock chamber is 84-foot wide by 1202 feet of usable length with and a sill elevation of -13.75 feet Mean Low Gulf. Port Allen Lock has a top elevation of 54.25 feet MLG. In each gatebay are two steel miter gates, each weighing 225 tons. The maximum normal design head is 45 feet. The maximum design reverse head is only 1 foot that is less than the operating case.

Equalizing the chamber water level with either water stage is accomplished by wall culverts with side ports. Tainter valves control the water flow in the culverts. Lock operation for navigation consists of equalizing the chamber water level with either the river or canal stage, opening the miter gates to admit the vessel, closing the gates, equalizing the chamber water level to the opposite water stage, and opening the opposite gates to permit the vessel to leave the lock.

Emergency closure of the lock can be accomplished by placing the steel bulkheads, stored near the lock, across the width of the lock with the derrick. Closure for routine maintenance is accomplished by a steel needle beam and concrete needles.

INSPECTION, MAINTENANCE, AND REPAIR HISTORY

Port Allen Lock was inspected 6 times between 1968 and 1992, was dewatered for maintenance and repairs in 1971, 1984 and 1987 and has been closed to navigation for miscellaneous repairs on numerous occasions during the period, January 1993 through August 1996, the period for which condition reports were readily available. A listing of lock closures due to maintenance and repair, and a summary of maintenance and repair operations for Port Allen Lock, can be furnished upon request.

EXISTING CONDITIONS

According to the Periodic Inspection Report No. 6, dated 17 November 1992, the Port Allen Lock is safe, structurally stable, well maintained and in satisfactory operating condition.

ANTICIPATED MAJOR MAINTENANCE, IMPROVEMENTS, OR REPAIRS

According to the same Periodic Inspection Report, there is no major maintenance, improvements, or repairs needed at the time of the report. It is anticipated that within 8 to 12 years, gate machinery bearings and bushings and hydraulic systems will need to be replaced. The gate operating cylinders are presently being refurbished, one at a time, using a spare cylinder so that the lock is not kept out of service. The current Lock Repair and Closure Schedule (5 June 1997) has plans to remove the existing miter gates and sandblast and paint them as part of normal maintenance. One set is scheduled for September 1999 and the other set in FY-00. As stated in the Reconnaissance Report dated May 1992, Port Allen does not have the need for additional capacity until the year 2020. Consequently, detailed engineering at this site is not appropriate at this time, although navigation improvements at this lock should be considered in the feasibility study.

ASSESSMENT OF POTENTIAL FOR MAJOR REHABILITATION

There is very little potential for major rehabilitation at the Port Allen Lock. From the observed condition of the lock, no major rehabilitation should be required to maintain the lock in a safe, structurally stable, and satisfactory operation condition. The only improvement under consideration is construction of spare miter gates. This small-scale improvement will significantly reduce dewatering closure time.